

Notice of Allowability

Application No.

10/781,520

Examiner

Jaime M. Holliday

Applicant(s)

BACKES ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 3/28/07.
2. ☒ The allowed claim(s) is/are 1-3.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see "REMARKS," filed March 28, 2007, with respect to **claims 1-3** have been fully considered and are persuasive. The Double Patent of **claims 1-3** has been withdrawn.

Terminal Disclaimer

2. The terminal disclaimer filed on March 28, 2007 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of Application # 10/781520 has been reviewed and is accepted. The terminal disclaimer has been recorded.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Insert in first line of specification:

This application claims benefit of 60/449,602 02/24/2003 and claims benefit of 60/466,448 04/29/2003 and claims benefit of 60/472,320 05/21/2003 and claims benefit of 60/472,239 05/21/2003.

Authorization for the examiner's amendment below was given in a telephone interview with Holmes Anderson on April 13, 2007.

On first line of claim 1, insert "for" after --method--, to correct a grammatical error.

Allowable Subject Matter

4. **Claims 1-3** are allowed.

5. The following is an examiner's statement of reasons for allowance:

Consider **claim 1**, the most relevant prior art of record, Nagato et al. (Pub # 2005/0148336 A1) in view of Hayakawa (U.S. Patent # 6,973,316 B1), fail to specifically show, disclose, or suggest calculating a corrected distance from the first wireless device to the third wireless device based on a first distance to the second wireless device averaged over a first sample size, a second distance to the third wireless device averaged over a second sample size, and a first error value related to the first sample size and a second error value related to the second sample size; wherein the corrected distance is the first distance if the first distance minus the second distance is less than or equal to the total of the first error value plus the second error value; wherein the corrected distance is the second distance if the first distance minus the second distance

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is greater than the total of the first error value plus the second error value; using the corrected distance to ascertain a data rate; using the data rate to ascertain a load factor; calculating a biased distance to the third device equal to $(\text{corrected distance} * (\text{load factor} + (\text{a known load factor related to the second device}))) / \text{load factor}$; calculating a biased distance to the second device equal to the $(\text{first distance} * (\text{the known load factor related to the second device}) / (\text{the known load factor related to the second device} + \text{load factor}))$; calculating a biased distance delta equal to the biased distance delta to the second device minus the biased distance delta to the third device; requesting association with the third device if the biased distance delta is positive.

Nagato et al. clearly show and disclose a communication channel allocation method for allocating a communication channel to communications between a mobile terminal device and a second radio base station using a second frequency band which is close to a first frequency band used by a first radio base station, the communication channel allocation method comprising the steps of: detecting a first distance between the second radio base station (third wireless device) and the first radio base station (first wireless device); detecting a second distance between the second radio base station (third wireless device) and the mobile terminal device (first wireless device) when the first distance is less than a first threshold; and allocating a communication channel of a frequency far from the first frequency band in the second frequency band to the communications between the second radio base station and the mobile terminal device when the second distance is less than a second threshold (requesting association), (paragraph 16). According to another aspect of the present invention there is provided

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a communication channel allocation method for allocating a communication channel to communications between a mobile terminal device (first wireless device) and a second radio base station (third wireless device) using a second frequency band which is close to a first frequency band used by a first radio base station, the communication channel allocation method comprising the steps of: detecting a distance between the first radio base station (second wireless device) and the mobile terminal device (first wireless device); and allocating a communication channel of a frequency far from the first frequency band in the second frequency band to the communications between the second radio base station and the mobile terminal device when the distance is less than a prescribed threshold (requesting association with the third device), (paragraph 16).

Hayakawa clearly shows and discloses a position detecting method where there is a plurality of base stations communicating with the mobile station that are considered to be a main base station (third wireless device) with which the mobile station (first wireless device) registers a position thereof, and at least two base stations (second wireless device) neighboring to the main base station, and a distance between the mobile station and main base station is detected. Based on the detected distance, respective distances between the main base station and the at least two base stations neighboring to the main base station, and a value of a communication parameter of a measuring signal between the mobile station and main base station, initial values of communication parameters (data rate) of respective measuring signals between the mobile station and the at least two base stations are determined. By substituting the distance between the mobile station and main base station with which the mobile station

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registers the position thereof, and respective distances between the main base station and the at least two base stations neighboring to the main base station into an attenuation function of radiated power with distance, it is possible to obtain conditions of the communication parameters enabling the mobile station and the at least two base stations neighboring to the main base station to mutually receive respective measuring signals. By reflecting the conditions of communication parameters in the initial values of the respective communication parameters between the mobile station and the at least two base stations neighboring to the main base station, it is possible for the mobile station and the at least two base stations neighboring to the main base station to start communicating the respective measuring signals assuredly. Then it is possible to detect the respective distances between the mobile station, and the main base station and at least two base stations neighboring to the main base station, whereby using the principle of trigonometrical measurement, a position of the mobile station can be detected (A method use by a first wireless device in a wireless communications environment to evaluate the distance between the first wireless device and a second wireless device, and the first wireless device and a third wireless device), (col. 2 line 42-col. 3 line 10).

Nagato et al. in view of Hayakawa, however, lack the claimed limitations method comprising the steps of calculating a corrected distance from the first wireless device to the third wireless device based on a first distance to the second wireless device averaged over a first sample size, a second distance to the third wireless device averaged over a second sample size, and a first error value related to the first sample

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size and a second error value related to the second sample size; wherein the corrected distance is the first distance if the first distance minus the second distance is less than or equal to the total of the first error value plus the second error value; wherein the corrected distance is the second distance if the first distance minus the second distance is greater than the total of the first error value plus the second error value; using the corrected distance to ascertain a data rate; using the data rate to ascertain a load factor; calculating a biased distance to the third device equal to $(\text{corrected distance} * (\text{load factor} + (\text{a known load factor related to the second device}))) / \text{load factor}$; calculating a biased distance to the second device equal to the $(\text{first distance} * (\text{the known load factor related to the second device})) / (\text{the known load factor related to the second device} + \text{load factor})$; calculating a biased distance delta equal to the biased distance delta to the second device minus the biased distance delta to the third device; requesting association with the third device if the biased distance delta is positive, therefore, this limitation in conjunction with the other limitations recited in claim 1, is novel and unobvious in view of the combination of Nagato et al. and Hayakawa.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaime M. Holliday whose telephone number is (571) 272-8618. The examiner can normally be reached on Monday through Friday 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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